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09/600,654

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EXAMINER

VO, TUNG T

ART UNIT

PAPER NUMBER

2621

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
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3 MONTHS

03/30/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

|                              |                                      |  |  |
|------------------------------|--------------------------------------|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>09/600,654 | <b>Applicant(s)</b><br>KNEE, MICHAEL JAMES |  |
|                              | <b>Examiner</b><br>Tung Vo           | <b>Art Unit</b><br>2621                    |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 04 January 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 2-10,12,14,15,17-19,25 and 26 is/are pending in the application.
- 4a) Of the above claim(s) 1,11,13,16 and 20-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-10,12,14,15,17-19,25 and 26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 July 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01/04/07 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2-5, 6-10, 12, 14-15, 17-19, and 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohsawa (US 5,790,195) in view of Dieterich (US 6,100,940).

Re claims 3, 6, 9, 12, 14-15, 19, 25 and 26, Ohsawa teaches a video signal comprising the steps of: in compression coding step (22 and 35 of fig. 1), analyzing an input video signal at a picture rate and at a macroblock rate (11 and 12 of fig. 1), and taking compression coding decisions (13 of fig. 1) including picture rate coding decisions and macroblock rate coding decisions; forming a presentation of the coding decisions (the output of the decision circuit 13, col. 6, lines 5-11), said macroblock rate (10 of fig. 1) coding decisions includes motion vectors

(8 of fig. 1, Note the encoder circuit (fig. 1) performs coding decisions includes the motion vectors for encoding video input signal); outputting said representations from the compression coding step (13 of fig. 1) and passing the representation along a video pathway with input video signal (22, 10, 31-35 of fig. 1)); and downstream of the video pathway compression encoding the input video signal in accordance with said coding decisions (34 of fig. 5, e.g. encoding the video input based on the coding decisions), wherein the downstream encoder (34 of fig. 1) to slave to the coding decisions (8, 10-13) for compression encode the input signal at a bit rate determined by the coding decisions (13 and 16 of fig. 1).

Moreover, Ohsawa teaches a compression pre-processing apparatus (11-13, 30, 31, and 38 of fig. 1) comprising: a coder (11-13 of fig. 1) for analyzing a video signal at a picture rate (10 of fig. 1) and at a macroblock rate (11-12 of fig. 1) and taking compression coding decisions (13 of fig. 1) including picture rate coding decisions, and a processor (13 and 8 of fig. 1) for processing the coding decisions includes motion vectors and output (13 of fig. 1) for outputting, from the compression pre-processing apparatus, the processed coding decisions for passage with the video signal along a video pathway (the decisions from the output of the decision circuit 13 of fig. 1, and the video input signal from the input unit 22 of fig.1, wherein the encoder (34 of fig. 1) for encoding the video input with the decisions information); wherein the downstream encoder (34 of fig. 1) to slave to the coding decisions (8, 10-13) for compression encode the input signal at a bit rate determined by the coding decisions (13 and 16 of fig. 1).

It is noted that Ohsawa does not particularly teach wherein input video signal is pass along the video pathway with the representation of the coding decision undergoes no processing

other than delay; analysis generates information relating the picture size and type; and the selection of a macro-block prediction mode as claimed.

However, Dieterick teaches wherein input video signal is pass along the video pathway with the representation of the coding decision undergoes no processing other than delay (VIDEO 145, DELAY 170, DELAYED 175 of fig. 1; there is no processing other than delay of the video in the pre-processing section, 110 of fig. 1); analysis generates information relating the picture size and type (610 of fig. 6; Note MPEG-2 has an identified size and type of I, P, or B frames); and the selection of a macro-block prediction mode (650 of fig. 6, Note MPEG-2 encoder has a function to predict Inter or Intra frames (I and P or B frames, Note in order to determine the inter or intra frame, the motion vectors would obviously identified as apart of coding decisions).

Dieterich further suggests that many changes, modifications, variations and other uses would be made. This is evidence to one skill in the art to modify the delay processing of Dieterich into the compression pre-processing apparatus of Ohsawa.

Therefore, taking the teachings of Ohsawa and Dieterick as a whole, it would have been obvious to one of ordinary skill in the art to incorporate the delayed video (170 and 175 of fig. 1) into the compression pre-processing apparatus of Ohsawa for the same purpose of delaying the video signal to improve a subsequent coding of the incoming or pre-recorded image sequence and reduce the computation of an encoder.

Re claim 2, Ohsawa further teaches wherein said representation of the coding decision comprises an information bus (an (A) value of fig. 2) in which the coding decisions are represented in the same format as they are represented in the compressed bit-stream which is the output of said downstream compression coding operation (VLC 34 of fig. 1).

Re claim 4, Ohaswa further teaches wherein analysis comprises the generation of candidate of a motion vector (38 of fig. 1).

Re claim 5, Ohsawa further teaches wherein analysis comprises the selection for each macro-block of the picture of a motion vector from said candidate motion vectors (col. 3, lines 57-62).

Re claim 7, Ohsawa further teaches wherein said analysis includes a bit rate control (35 and 16 of fig. 1), and includes the taking of quantizer decisions (16 of fig. 1) appropriate to the maintenance of the selected bit rate.

Re claim 8, Ohsawa further teaches wherein plural bit rates are selected (16 of fig.1) and plural quantizer decisions are taken (quantizer step size).

Re claim 10, Ohsawa further teaches wherein said means for processing the coding decisions provides a representation of the coding decisions in the form of a compressed video bit-stream lacking transform coefficients (the decisions are used for encoding without using transform coefficients, 13 of fig. 1).

Re claim 17, Ohsawa further teaches wherein said means for outputting processed coding decisions serves to modulate one or more least significant bits of video signal (the decisions inherently have one or more least significant bits).

Re claim 18, Ohsawa further teaches wherein the input video signal which is passed along decisions comprises means for modifying the un-encoded input video signal by adding the processed coding decisions (13a of fig. 1)

***Response to Arguments***

4. Applicant's arguments filed 01/04/2007 have been fully considered but they are not persuasive.

The applicant argued that the combination of Ohsawa and Dieterich does not disclose providing coding decisions that include motion vectors for passage with the input video signal along a video pathway; apparatus is a video signal having associated with it coding decisions which would enable a downstream encoder effectively to slave to those coding decisions and to produce a compressed bitstream having a bit-rate determined by those coding decisions as specified in the remarks.

The examiner respectfully disagrees with that applicant. It is submitted that Ohsawa teaches the preprocessing (filter circuit, 10 of fig. 1), activities detection circuit (11 of fig. 1), and motion magnitude circuit (12 of fig. 1), decision circuit (13 of fig. 1), motion vector detection circuit (28 of fig. 1), and encoding mode determination circuit (30 of fig. 1) are interconnected to determine encoding decisions that includes inter and intra modes, motion vectors, quantization for the variable length encoding circuit (34 of fig. 1); where apparatus (fig. 1) is a video signal having associated with it coding decisions (input signal, 22 of fig. 1) which would enable a downstream encoder (24 of fig. 1) effectively to slave to those coding decisions (13, 8, and 30 of fig. 1) and to produce a compressed bit-stream (35 of fig. 1) having a bit-rate determined by those coding decisions (13 and 16 of fig. 1). Dieterich discloses coding decisions (side information is defined for encoding, col. 9, lines 28-col. 10, line 2) that include motion vectors (col. 10, lines 25-36) for passage with the input video signal along a video pathway (110 and 120 of fig. 1; Note there is no compression processing in the pre-processing section and side

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information insertion section). In view of the discussion above, the claimed features are unpatentable over the combination of Ohsawa and Dieterich.

### ***Conclusion***

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Vogel (US 5,343,247) discloses filter circuit for preprocessing a video signal to be coded.

### ***Contact Information***

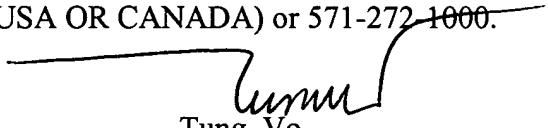
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung Vo whose telephone number is 571-272-7340. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Tung Vo  
Primary Examiner  
Art Unit 2621